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## Brain and Blame

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## Brain and Blame

### Abstract

This article addresses the law's concept of the person and its relation to responsibility and the excusing conditions. It demonstrates that causation of behavior in general, even pathological biological causation, is not itself an excuse and suggests that the incapacity for rationality is the genuine basis of moral and legal excuse. The paper concludes by applying its theses to the case of Spyder Cystkopf, a man with a confirmed subarachnoid cyst, who killed his wife during a heated argument with her.

### Comments

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ESSAY: BRAIN AND BLAME

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BIO:

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This essay was presented at the Georgetown University Law Center Faculty Workshop and at a panel on "Neuropsychiatry in the Courtroom" at the 1995 annual meeting of the American Neuropsychiatric Association. I thank participants at both presentations, and especially Gregg Bloche, Larry Gostin, Helen Mayberg, John Monahan, Norman Relkin, and Richard Restak for helpful comments. In modified form, the essay will also appear in *Seminars in Clinical Neuropsychiatry*.

SUMMARY:

... The discovery of biological pathology that may be associated with criminal behavior lures many people to treat the offender as purely a mechanism and the offensive conduct as simply the movements of a biological organism. ... Even when pathology is uncontroversially a but-for cause of behavior, that conduct will be excused only if an independent excusing condition, such as irrationality or compulsion, is present. ... The undesirable behavior is human action, not a literally irresistible mechanism, and the causal role of the **brain** tumor does not necessarily mean that the behavior was irrational or compelled. ... Even if Cystkopf had never before been so provoked and enraged and even if the homicide would not have occurred but for the unique circumstances, he should be held responsible unless he lacked the capacity for rational conduct, that is, the ability to be guided by good reasons. ... If one believes that unimpaired marking is *not* a criterion of reasonable rationality, then Cystkopf's claim for excuse is immediately blocked: If his impairment does not negate the capacity for rational conduct, there is no moral or legal purchase for his claim. ... Cystkopf's excusing claim is strengthened if the cyst did impair his somatic marking and capacity for rationality at the time of the crime. ... Even confirmed causal physical pathology does not excuse human action unless it produces an independent excusing condition.

TEXT:

[\*527] I. INTRODUCTION

The discovery of biological pathology that may be associated with criminal behavior lures many people to treat the offender as purely a mechanism and the offensive conduct as simply the movements of a biological organism. Because mechanisms and their movements are not appropriate objects of moral and legal **blame**, the inevitable conclusion seems to be that the offender should not be held legally responsible. I suggest in contrast that abnormal biological causes of behavior are not grounds per se to excuse. Causation is not an excuse and, even within a more sophisticated theory of excuse, pathology will usually play a limited role in supporting an individual excuse.

Parts II and III of this essay describe the law's concept of the person and its relation to moral and legal responsibility and excusing conditions. Part IV then examines why causation in general, even pathological causation, is not itself an excusing condition. Next, Part V turns to the specific relation of **brain** or other nervous system pathology to moral and legal responsibility properly understood. Finally, to illustrate the essay's theses, Part VI considers in detail the case of "Spyder Cystkopf," a man with a previously blameless history and a confirmed cyst that impinged on his **brain**, who killed his wife during a heated argument with her.<sup>1</sup>

II. THE LAW'S CONCEPT OF THE PERSON

Intentional human conduct, that is, *action*, unlike other phenomena, can be explained by physical causes *and* by reasons for action. Although physical causes explain the movements of galaxies and planets, molecules, inhuman species, and all the other moving parts of the physical universe, including the neurophysiological events accompanying human action, only human action can also be explained by reasons. It makes no sense to ask a bull that gores a matador, "Why did you do that?," but this question makes sense and is vitally [\*528] important when it is addressed to a person who sticks a knife into the chest of another human being. It makes a great difference to us if the knife-wielder is a surgeon who is cutting with the patient's consent or a person who is enraged at the victim and intends to kill him.

When one asks about human action, "Why did she do that?," two distinct types of answers may be given. The reason-giving explanation accounts for human behavior as a product of intentions that arise from the desires and beliefs of the agent. The second type of explanation treats human behavior as simply one bit of the phenomena of the universe, subject to the same natural, physical laws that explain all phenomena. Suppose, for example, we wish to explain why Molly became a lawyer. The reason-giving explanation might be that she wishes to emulate her admired mother, a prominent lawyer, and Molly believes that the best way to do so is also to become a lawyer. If we want to account for why Molly chose one law school rather than another, a perfectly satisfactory explanation under the circumstances would be that Molly chose the best school that admitted her.

The mechanistic type of explanation would approach these questions quite differently. For example, those who believe that mind can ultimately be reduced to the biophysical workings of the **brain** and nervous system -- the eliminative materialists -- also believe that Molly's "decision" is *solely* the law-governed product of biophysical causes. Her desires, beliefs, intentions, and choices are therefore simply epiphenomenal, rather than genuine causes of her behavior. According to this mode of explanation, Molly's "choices" to go to law school and to become a lawyer (and all other human behavior) are causally indistinguishable from any other phenomena in the universe, including the movements of molecules and bacteria.

As clinical and experimental sciences of behavior, psychiatry and psychology are uncomfortably wedged between the reason-giving and mechanistic accounts of human conduct. Sometimes they treat

actions as purely physical phenomena, sometimes as texts to be interpreted, and sometimes as a combination of the two. Even neuropsychiatry and neuropsychology, the more physical branches of their parent disciplines, are similarly wedged because they begin their investigations with *action* and not simply with abnormal movements. One can attempt to assimilate reason-giving to mechanistic explanation by claiming that desires, beliefs, and intentions are genuine causes, and not simply rationalizations of behavior. Indeed, folk psychology, the dominant explanatory mode in the social sciences, proceeds on the assumption that reasons for action are genuinely causal. But the assimilationist position is philosophically controversial, a controversy that will not be solved until the mind-body problem is "solved" <sup>2</sup> -- an event unlikely to occur in the foreseeable future.

Law, unlike mechanistic explanation or the conflicted stance of psychiatry [\*529] and psychology, views human action as almost entirely reason-governed. The law's concept of a person is a practical reasoning, rule-following being, most of whose legally relevant movements must be understood in terms of beliefs, desires, and intentions. As a system of rules to guide and govern *human* interaction -- legislatures and courts do not decide what rules inhuman species must follow -- the law presupposes that people use legal rules as premises in the practical syllogisms that guide much human action. No "instinct" governs how fast a person drives on the open highway. But among the various explanatory variables, the posted speed limit and the belief in the probability of paying the consequences for exceeding it surely play a large role in the driver's choice of speed. For the law, then, a person is a practical reasoner, a being whose action may be guided by reasons. The legal view of the person is not that all people always reason and behave consistently rationally according to some preordained, normative notion of rationality. It is simply that people are creatures who act for and consistently with their reasons for action and are generally capable of minimal rationality according to mostly conventional, socially constructed standards.

On occasion, the law appears concerned with a mechanistic causal account of conduct. For example, claims of legal insanity are usually supported and explained by using mental disorder as a variable that at least in part caused the defendant's offense. Even in such cases, however, the search for a causal account is triggered by the untoward, crazy *reasons* that motivated the defendant. Furthermore, the criteria for legal insanity primarily address the defendant's reasoning, rather than mechanistic causes. For example, in addition to a finding of mental disorder, acquittal by reason of insanity requires that the defendant did not know right from wrong or was unable to appreciate the wrongfulness of her act. Conduct motivated by crazy reasons is intentional human action. The law excuses a legally insane defendant, however, because her practical reasoning was nonculpably irrational, not because her behavior was caused by abnormal psychological or biological variables. Indeed, it is a simple matter to devise irrationality criteria for legal insanity that would excuse all people now found legally insane, but which make no mention whatsoever of mental disorder or other alleged mechanistic causes.

### III. REASONS, RESPONSIBILITY, AND EXCUSES

The law's conception of responsibility follows logically from its conception of the person and the nature of law itself. Once again, law is a system of rules that guides and governs human interaction. It tells citizens what they may and may not do, what they must or must not do, and what they are entitled to. If human beings were not creatures who could understand and follow the rules of their society, who could not be guided by reasons, the law and all other systems, such as morality, that regulate conduct by reasons and rules would be powerless to affect human action. Rule-followers must be creatures who are capable of properly using the rules as premises in practical reasoning. It follows that a [\*530] legally responsible agent is a person who is so capable according to some contingent, normative notion of both rationality itself and how much capability is required. For example, legal responsibility might require

the capacity to understand the reason for an applicable rule, as well as the rule's narrow behavior command. These are matters of moral, political, and, ultimately, legal judgment, about which reasonable people can and do differ. There is no uncontroversial definition of rationality or of what kind and how much is required for responsibility. But the debate is about human action -- intentional behavior guided by reasons.

Specific legal responsibility criteria exemplify the foregoing analysis. Consider the criminal law and criminal responsibility. Most substantive criminal laws prohibit harmful conduct. Fair and effective criminal law requires that citizens must understand what conduct is prohibited, the nature of their own conduct, and the consequences for doing what the law prohibits. Homicide laws, for example, require that citizens understand that unjustifiably killing other human beings is prohibited, what counts as killing conduct, and that the state will inflict pain if the rule is violated and the perpetrator is caught and convicted. A person incapable of understanding the rule or the nature of her own conduct, including the context in which it is embedded, could not properly use the rule to guide her conduct. For example, a person who delusionally believed that she was about to be killed by another person and kills the other in the mistaken belief that she must do so to save her own life, does not rationally understand what she is doing. She of course knows that she is killing a human being and does so intentionally, but the rule against *unjustifiable* homicide will be ineffective because she delusionally believes that her action is justifiable.

The inability to follow a rule properly, to be rationally guided by it, is what distinguishes the delusional agent from people who are simply mistaken, but who could have followed the rule by exerting more effort, attention, or the like. We believe that the delusional person's failure to understand is not her fault because she lacked the ability to understand in this context. In contrast, the person capable of rational conduct is at fault if she fails to exercise her rationality. In sum, rationality is required for responsibility, and nonculpable irrationality is an excusing condition. Blaming and punishing an irrational agent for violating a rule she was incapable of following is unfair and an ineffective mechanism of social control.

Responsibility also requires that the agent act without compulsion or coercion, even if the agent is fully rational, because it is also unfair to hold people accountable for behavior that is wrongly compelled. For example, suppose a gunslinger threatens to kill you unless you kill another innocent person. The balance of evils is not positive: it is one innocent life or another, so the killing would not be justified. But it might be excused because it is compelled. Compulsion involves a wrongful hard choice that a rational, otherwise responsible agent faces. If she yields to the threat, it will not be because she doesn't understand the legal rule or what she is doing. She knows it is wrong and acts [\*531] intentionally precisely to avoid the threatened harm. Still, society, acting through its legal rules governing such cases, might decide that some choices are too hard fairly to expect the agent to behave properly and that people will be excused for making the wrong choice. If the hard choice renders the person irrational and incapable of rationality, then there is no need to resort to notions of compulsion to excuse.

In sum, an agent is responsible for a particular action if she was capable of rationality and acted without compulsion in this context. If she was incapable of rationality or compelled to perform the particular action, she will be excused.

### IV. CAUSATION IS *NOT* AN EXCUSING CONDITION

The "fundamental psycholegal error" is the mistaken belief that if science or common sense identifies a cause for human action, including mental or physical disorders, then the conduct is necessarily excused. But causation is neither an excuse per se nor the equivalent of compulsion, which is an excusing

condition. For example, suppose that I politely ask the brown-haired members of an audience of lawyers to whom I am speaking to raise their hands to assist me with a demonstration. As I know from experience, virtually all the brunet(te)s will raise their hands, and I will thank them politely. These hand-raising are clearly caused by a variety of variables over which the brunet(te) attorneys have no control, including genetic endowment (being brunet(te) is a genetically determined, but-for cause of the behavior) and, most proximately, my words. Equally clearly, this conduct is human action -- *intentional* bodily movement -- and not simply the movements of bodily parts in space, as if, for example, a neurological disorder produced a similar arm-rising. Moreover, the conduct is entirely rational and uncompelled. The cooperating audience members reasonably desire that the particular lecture they are attending should be useful to them. They reasonably believe that cooperating with the invited lecturer at a professional meeting will help satisfy that desire. Thus, they form the intention to raise their hands, and they do so. It is hard to imagine more completely rational conduct, according to any normative notion of rationality. The hand-raising were not compelled, because the audience was not threatened with any untoward consequences whatsoever for failure to cooperate. In fact, the lecturer's request to participate was more like an *offer*, an opportunity to make oneself better off by improving the presentation's effectiveness, and offers provide easy choices and more freedom, rather than hard choices and less freedom.<sup>3</sup>

The cooperative audience members are clearly responsible for their hand-raising and fully *deserve* my "thank you," even though their conduct was perfectly predictable and every bit as caused as a neuropathologically induced arm-rising. My "thank you" was not intended simply as a positive reinforcer for [\*532] the hand-raising behavior the audience members performed. Gratitude is the appropriate moral sentiment in response to the willingness of the audience to satisfy the normatively justifiable expectation that they should cooperate and the reasonable assumption that a group of lawyers is composed of rational and therefore responsible moral agents. "Thank you" is the appropriate and deserved expression of that moral sentiment. \* Although the hand-raising conduct is caused, there is no reason why it should be excused.

All phenomena of the universe are presumably caused by the necessary and sufficient conditions that produce them. If causation were an excuse, no one would be responsible for any conduct, and society would not be concerned with moral and legal responsibility and excuse. Indeed, eliminative materialists, among others, often make such assertions,<sup>5</sup> but such a moral and legal world is not the one we have, nor I daresay, one that most of us would prefer to inhabit. Although neuropathologically induced arm-risings and cooperative, intentional hand-raising are equally caused, they are distinguishable phenomena, and the difference is vital to our conception of ourselves as human beings. This is not the appropriate place to offer a defense of the importance of responsibility and excuse and praise and **blame**, but I will simply assume that such human ideas and practices enrich our lives and encourage human flourishing.<sup>6</sup> In a moral and legal world that encompasses both responsible and excused action, all of which is caused, the discrete excusing conditions that should and do negate responsibility are surely caused by something. Nevertheless, it is the nature of the excusing condition that is doing the work, not that the excusing condition is caused.

The determinist reductio -- everyone or no one is responsible if the truth of determinism or universal causation underwrites responsibility -- is often attacked in two ways. The first is "selective determinism" or "selective causation" -- the claims that only some behavior is caused or determined and that only this subset of behavior should be excused. The metaphysics of selective [\*533] causation are wildly implausible and "panicky,"<sup>7</sup> however. If this is a causal universe, as it most assuredly is, then it strains the imagination also to believe that some human behavior somehow exits the "causal stream."

To explain in detail why selective causation/selective excuse is an unconvincing and ultimately patronizing argument would require a lengthy digression from this essay's primary purpose. I have made this argument in detail elsewhere and shall simply assert here that good arguments do not support this position.<sup>8</sup>

The second attack on the determinist reductio claims that only abnormal causes, including psychopathological and physiopathological variables, excuse. Although this argument appears closer to the truth, it is a variant of selective determinism and suffers from the defects of that approach. Pathology can produce an excusing condition, but when it does it is the excusing condition that does the work, not the existence of a pathological cause per se. Consider again the delusional self-defender, who kills in response to the delusionally mistaken belief that she is about to be killed. Human action to save one's life is not a mechanistic, literally irresistible cause of behavior, and crazy beliefs are no more compelling than noncrazy beliefs. The killing is perfectly intentional -- the delusional belief provides the precise reason to form the intention to kill. Moreover, the killing is also not compelled simply because the belief is pathologically produced. A nondelusional but unreasonably mistaken self-defender, who feels the same desire to save her own life, would have no excuse for killing. A desire to save one's own life furnishes an excusing condition only under very limited circumstances. There is also nothing wrong with our defender's "will," properly understood as an intentional executory state that translates desires and beliefs into action.<sup>9</sup> The defender's will operated quite effectively to effectuate her desire to live when she believed that she needed to kill to survive. Nor does our delusional self-defender lack "free will" simply because she is abnormal. I don't know what free will is in any case, and it is often just a placeholder for the conclusion that the agent supposedly lacking this desirable attribute ought to be excused. The real reason our delusional self-defender ought to be excused, of course, is that she is not capable of rationality on this occasion. This is the genuine excusing condition that distinguishes her from the nondelusional but unreasonably mistaken self-defender.

When agents behave inexplicably irrationally, we frequently believe that underlying pathology produces the irrationality, but it is the irrationality, not the [\*534] pathology, that excuses. After all, pathology does not always produce an excusing condition, and when it does not, there is no reason to excuse the resultant conduct. To see why, imagine a case in which pathology is a but-for cause of rational behavior. Consider a person with paranoid fears for her personal safety, who is therefore hypervigilant to cues of impending danger. Suppose on a given occasion she accurately perceives such a cue and kills properly to save her life. If she had not been pathologically hypervigilant, she would have missed the cue and been killed. She is perfectly responsible for this rational, justifiable homicide. Or take the case of a hypomanic businessperson, whose manic energy and heightened powers are a but-for cause of making an extremely shrewd deal. Assume that business conditions later change unforeseeably and the deal is now a loser. The deal was surely rational and uncompelled when it was made, and no sensible legal system would later void it because the businessperson was incompetent to contract. Even when pathology is uncontroversially a but-for cause of behavior, that conduct will be excused only if an independent excusing condition, such as irrationality or compulsion, is present. Even a highly abnormal cause will not excuse unless it produces an excusing condition.

## V. BRAIN AND BLAME

The foregoing analysis of excusing conditions applies straightforwardly to cases in which **brain** or nervous system pathology is part of the causal chain of intentional behavior. To begin, biological causation will only be part of the causal determinants of any intentional conduct, which is always mediated by one's culture, language, and the like. The best accounts of the relation between **brain** and

behavior suggest that no discrete bit of physiology always and everywhere produces exactly the same intentional conduct in all human beings experiencing that physiological state, that no stimulus produces exactly the same **brain** states in all people responding to it, and that no bit of exactly the same behavior emitted by different people is attended by exactly the same **brain** state in all the similarly behaving agents. For example, the same pathophysiological (or psychopathological) processes may produce delusional beliefs in all people with the processes, but the delusional content and resultant behavior of delusional, thirteenth-century subcontinental Indians will surely differ from that of delusional, late-twentieth-century Americans. For a second intuitive example, consider the demonstration about hand-raising discussed previously. <sup>10</sup> Large numbers of people behave (approximately) exactly the same for the same reasons in response to the same stimulus. It is implausible to assume that their **brains** and nervous systems are in identical biophysical states. In sum, biological variables will rarely be the sole determinants of intentional human action.

More fundamentally, biological causation will not excuse per se, because [\*535] people are biological creatures and biology is always part of the causal chain for everything we do. If biological causation excused, no one would be responsible. Intentional human action and neuropathologically produced human movements are both biologically driven, yet they are conceptually, morally, and legally distinguishable. Moreover, if biology were "all" the explanation and everything else, including causal reasons for action, were simply epiphenomenal -- as the eliminative materialists claim -- then our entire notions of ourselves and responsibility would surely alter radically. But eliminative materialism is philosophically controversial, <sup>11</sup> and science furnishes no reason to believe that it is true. Indeed, it is not clear conceptually that science could demonstrate that it is true. Thus, until the doctor comes and convinces us that our normative belief in human agency and responsibility is itself pathological, biological causation per se does not excuse.

Abnormal biological causation also does not excuse per se. Human action can be rational or irrational, uncompelled or compelled, whether its causes are "normal" or "abnormal." Whatever the causes of human action may be, they will ultimately be expressed through reasons for action, which are the true objects of responsibility analysis. Suppose, for example, that a confirmed **brain** lesion, such as a tumor, is a but-for cause of behavior. That is, let us suppose that a particular piece of undesirable behavior would not have occurred if the agent never had the tumor. Make the further, strong assumption that once the tumor is removed, the probability that this agent will reoffend drops to zero. Although one's strong intuition may be that this agent is not responsible for the undesirable behavior, the given assumptions do not entail the conclusion that the agent should be excused. The undesirable behavior is human action, not a literally irresistible mechanism, and the causal role of the **brain** tumor does not necessarily mean that the behavior was irrational or compelled.

Moreover, it is a mistake to assume that specific **brain** pathology inevitably produces highly specific, complex intentional action. Certain areas of the **brain** do control general functions. For example, Broca's area in the left frontal lobe controls the ability to comprehend and produce appropriate language. A sufficient lesion in this site produces and enables us to predict aphasia. But there is no region or site in the frontal lobes or anywhere else in the **brain** that controls specific, complex intentional actions. No lesion enables us to explain causally or to predict an agent's reasons and consequent intentional action in the same direct, precise way that a lesion in Broca's area permits the explanation or prediction of aphasia. Neurological lesions can dissociate bodily movements from apparent intentions, producing automatisms and similar "unconscious" states. <sup>12</sup> But such states rarely produce criminal conduct, and when they do, the [\*536] agent is exculpated. In these cases we need not even reach the issue of whether the agent's intentional action is rational, because action itself is

lacking. <sup>13</sup> The story relating **brain** or nervous system pathology to intentional conduct will be far more complicated and far less direct than the already complicated correspondence between **brain** and nervous system lesions and the reduction or loss of general functions.

**Brain** or other nervous system pathology affects agents more generally. Suppose, for example, that the tumor in the previous example makes the agent irritable or emotionally labile. Such emotional states surely make it harder for any agent to fly straight in the face of other criminogenic variables, such as provocation or stress, but per se they do not render an agent irrational. Other agents may be equally irritable or labile as the result of environmental variables, such as the loss of sleep and stress associated with, say, taking law exams or trying an important, difficult, lengthy case. But these people would not be excused if they offended while in an uncharacteristic emotional state, unless that state sufficiently deprived them of rationality. People with criminogenically predisposing congenital abnormalities or lifelong character traits would have even less excuse for undesirable behavior, because they had the time and experience to learn to deal with those aspects of themselves that made flying straight harder.

Consider the case of Charles Whitman, who killed many victims by shooting passersby from the top of the tower on the University of Texas campus. He suffered from a **brain** tumor, and let us assume that we could demonstrate incontrovertibly that he would not have shot if he had not suffered from the tumor. But whether he is nonetheless responsible depends not on the but-for causation of his homicides, but on his reasons for action. If Whitman believed, for example, that mass murder of innocents would produce eternal peace on earth, then he should be excused, whether the delusional belief was a product of **brain** pathology, childhood trauma, or whatever. But if Whitman was simply an angry person who believed that life had dealt him a raw deal and that he was going to go out in a blaze of glory that would give his miserable life meaning, then he is unfortunate but responsible, whether his anger and beliefs were a product of the tumor, childhood trauma, an unfortunate character, or whatever.

All human action is, in part, the product of but-for causes over which agents have no control and which they are powerless to change, including their genetic endowments and the nature and context of their childrearing. If people had different genes, different parents, and different cultures, they would be different. Moreover, situational determinants over which agents have no control are but-for causes of much behavior. A victim in the wrong place at the wrong time is as much a but-for cause of the mugging as the mugger's genetics and experiences. If no victim were available, no mugging occurs, whatever the [\*537] would-be mugger's intentions. Such considerations are treated by philosophers under the rubric, "moral luck." <sup>14</sup> Our characters and our opportunities are in large measure the product of luck, and if luck excused, no one would be responsible. A **brain** tumor or other neuropathology that enhances the probability of the sufferer engaging in antisocial behavior is surely an example of dreadful bad luck. But unless the agent is irrational or the behavior is compelled, there is no reason to excuse the agent simply because bad luck in the form of biological pathology played a causal role. A cause is just a cause. It is not per se an excuse.

## VI. "SPYDER CYSTKOPF"

Spyder Cystkopf was charged with second degree murder for killing his wife, Brunhilda, on January 7, 1991. According to Cystkopf, he and Brunhilda had been arguing about their children, and she became enraged and scratched his face. During the ensuing fight, he struck her a number of times, she fell to the floor, and he strangled her to death. Cystkopf then arranged the crime scene to make Brunhilda's death appear to be a suicide, including throwing her out the thirteenth story window of their home. Forensic pathological evidence suggested that Brunhilda was perhaps alive when she hit the pavement. <sup>15</sup>

Cystkopf pled legal insanity and used evidence that he had a sub-arachnoid cyst <sup>16</sup> to claim that the normal functioning of his brain was impaired.

Cystkopf was a sixty-four year old "semi-retired" advertising executive. He had no previous history of violent conduct and no criminal record. In 1948 he suffered from various neurological abnormalities, including migraine and what was described as a seizure that caused disorientation, difficulty finding words, and an abnormal reflex. Medical tests found nothing wrong of neurological significance, and Cystkopf was discharged with a diagnosis of suspected congenital cerebral aneurism. From the 1948 discharge until the homicide in 1991, Cystkopf suffered from no neurological problems or disorders.

[\*538] As a person with far more resources than the average murder defendant, Cystkopf was able to retain excellent private counsel and numerous experts. He was evaluated psychiatrically, neurologically, and neuropsychologically. Virtually all the evaluations produced normal results, and none produced significant abnormalities. Cystkopf also underwent various brain-imaging procedures, which disclosed the presence of the sub-arachnoid cyst and significant, but possibly artifactual, decreases in cerebral metabolism in regions of the brain adjacent to the cyst. In light of these findings, Cystkopf's local experts referred him for further evaluation to Dr. Antonio Damasio's well-known neurological and cognitive neuroscience team at the University of Iowa College of Medicine. <sup>17</sup>

Damasio's findings and theories were the crux of Cystkopf's legal insanity claim. The size and location of the sub-arachnoid cyst were confirmed once again. Neuropsychological testing indicated mild defects in "executive control" functions, including prospective memory, sequential learning, and flexible responding to changing environmental contingencies. Most important, Damasio found that Cystkopf's ability to "mark" appropriate behavioral response options with a signal was impaired. Damasio had previously suggested and tested on a small number of subjects the hypothesis that some adults with acquired frontal lobe damage and sociopathic behavioral changes suffer an impairment in the ability to "mark [the implications of social situations] with a signal that would automatically distinguish advantageous from pernicious actions, in the perspective of social rules and current contingencies." <sup>18</sup> Consequently, such people allegedly have diminished ability to *guide* their conduct with appropriate responses, even if their ability cognitively to conjure up such responses is unimpaired. <sup>19</sup> Because Cystkopf's performance on the experimental protocol was similar to those of the brain-damaged experimental subjects in the earlier study, Damasio concluded that Cystkopf suffered from "a pathological diminution of autonomic responses to highly charged social/affective stimuli, in a nonverbal paradigm." <sup>20</sup> Damasio's final report noted that Cystkopf's response -- killing -- and his wife's provocation were both unusual. Further, the report [\*539] asserted: "It is reasonable to assume that his inability to respond correctly is part of the same defect that so limits his emotional and psychophysiological responses, and also that such a defect is due to his long-standing neurological condition." <sup>21</sup>

Armed with these findings and hypotheses about Cystkopf, the defense claimed that Cystkopf's cyst had been inexorably growing, perhaps throughout his life, and finally, in response to the alleged argument with and scratching by his wife, Cystkopf was "unable to select the most appropriate response option" because he had "pathological alterations in [his] modulation of social behavior." As a result, Cystkopf allegedly lacked substantial capacity to appreciate the criminality of his actions. <sup>22</sup>

Cystkopf was not raising a "standard" insanity defense, because he lacked a diagnosis of major mental disorder and grossly psychotic symptoms. Both are usually practically required to support an insanity defense, and the law sometimes requires the presence of severe mental disorder to raise the defense.

Nevertheless, I believe that Cystkopf raised a colorable insanity claim. No diagnosis or symptoms necessarily entail that the agent is not legally responsible, as the American Psychiatric Association's official diagnostic manual admits. <sup>23</sup> The genuine basis for the excuse is nonculpable irrationality. Cystkopf should be excused if he can demonstrate that the tumor (or anything else) rendered him nonculpably irrational when he killed his wife, even if his mental state does not fit traditional definitions of major mental disorder. <sup>24</sup>

Before addressing Cystkopf's moral and legal responsibility for killing his wife, let us review what we reasonably believe, what we would like to know, and what is speculative. We reasonably believe that (1) Cystkopf killed his wife by either strangling or defenestrating her; (2) Cystkopf had no history either of any violent conduct whatsoever or of any signs or symptoms of neurological disorder since 1948; and (3) Cystkopf had a sub-arachnoid cyst that may have decreased his cerebral metabolism in the region adjacent to the cyst. What we would like to know is a very large category, but it includes at least the following: (1) a detailed account of exactly what the fight was about and what was Cystkopf's mental state when he attacked his wife; (2) a detailed, intimate [\*540] history of Cystkopf's long- and short-term relations with his wife; (3) a detailed account of Cystkopf's usual behavior in a variety of usual and unusual contexts, including stressful and conflictual situations; (4) the statistically normative behavioral abnormalities, especially violent conduct, exhibited by people with Cystkopf's alleged neurological and neuropsychological abnormalities; and (5) the percentage of those with Cystkopf's pathological lesions and test results who demonstrate no behavioral abnormalities in general and no abnormal violence in particular.

The three most important speculations concern the causal role of the cyst in the homicidal behavior, the validity of Damasio's theory in general, and the application of Damasio's theory to Cystkopf in particular. These are speculative for a number of reasons. First, there is no way to confirm that the cyst played a but-for causal role, especially because we have no evidence that this apparently lifelong abnormality ever produced any other untoward conduct. Moreover, we do know both that most people with such cysts do not engage in homicidal behavior and that many people without abnormalities uncharacteristically "lose it" on a single occasion and do dreadful things. Second, Damasio's theory suffers from a number of defects, including vague formulation, limited experimental verification, and unknown ecological validity. Third, even if valid, Damasio's theory and findings may not apply to Cystkopf, because he differs importantly from Damasio's experimental subjects. <sup>25</sup>

Despite the large gaps in the factual, scientific, and clinical evidence, I will make the following simplifying assumptions, which are all sympathetic to Cystkopf's excusing claim: (1) Cystkopf killed his wife intentionally, but in a state of extreme emotional disturbance for which his wife's provocative behavior may have been a reasonable explanation or excuse; <sup>26</sup> (2) Cystkopf and his wife had a generally harmonious relationship that was not a dormant but pressure-filled "volcano," ready to erupt if the pressure increased; (3) Cystkopf was a characteristically even-tempered person, not given to rages and other highly emotional responses to stresses and provocations; (4) despite the cautions of the "method skeptics," <sup>27</sup> all the neuropsychological findings are valid; (5) Damasio's theory is correct in general; and (6) Cystkopf had impaired ability to mark the appropriate responses to conflictual situations. The lack of information that generated the need for these simplifying assumptions is paradoxically beneficial. It allows us to consider the appropriate role of the neurological claim undistracted by facts that might undermine it and our consequent willingness [\*541] to understand the relevance of such claims in general. Now, how should we assess Cystkopf's moral and legal responsibility for killing his wife?

Cystkopf is not claiming that he was unconscious or suffering from so-called sane or insane automatism

when he killed his wife. That is, he is neither denying the act requirement of the prima facie case, nor is he raising essentially the same claim as an affirmative defense. <sup>28</sup> The killer, Cystkopf, was not a mechanism, that is, literally physically compelled to perform the bodily movements that caused his wife's death. His deed was conscious, intentional, and motivated by reasons for action. Moreover, highly unusual and extreme provocation that creates extreme emotional disturbance and is the but-for cause of responsive behavior does not furnish a compulsion excuse. At most, as Cystkopf's charge reflects, it provides a partial excusing condition that reduces the degree of homicide. Any possible fully excusing condition will thus require analysis of his reasons for action and whether that action was either sufficiently irrational or otherwise sufficiently compelled.

Given our assumptions, Cystkopf's reason for killing his wife appears relatively apparent. <sup>29</sup> Unusually provoked and enraged by their argument and by her assaultive scratching, he desired her death and formed the intention to effectuate his desire. The only unusual aspect of his behavior, of course, is that he acted on the desire to kill. Intense rage and the desire to kill or destroy the objects of our rage are hardly unusual. In response to such feelings and urges, people may utter angry words, perform sub-homicidal actions, or sometimes consciously or unconsciously turn their anger towards themselves in various direct and indirect ways. They seldom kill, however. Cystkopf surely experienced such feelings in his four decades of adulthood prior to the homicide, possibly on many occasions, but he never assaulted those who enraged him. It is reasonable to assume that, like most people, Cystkopf used various techniques to avoid turning antisocial desire into antisocial action. Among these would be his internal moral sense, his conscience, and his fear of various external sanctions. <sup>30</sup>

Cystkopf faced an unusual challenge and failed. Peoples' repertoires for flying straight vary within and among people from time to time. Some people have more of the right stuff that operates as a defense to antisocial conduct, and [\*542] situational variables can either reinforce or weaken the characteristic level of the right stuff. In addition, different situations exert differential criminogenic effect by providing greater or lesser opportunities for offending. People with less of the right stuff who face more criminogenic situations will find it harder to fly straight than people with more of the right stuff who face fewer challenging situations.

But all people, including those with little of the right stuff and those consistently exposed to the strongest challenges to flying straight, are nonetheless held responsible if they possess the capacity for rational conduct and their conduct is not compelled. Even if Cystkopf had never before been so provoked and enraged and even if the homicide would not have occurred but for the unique circumstances, he should be held responsible unless he lacked the capacity for rational conduct, that is, the ability to be guided by good reasons. Simply to conclude that he is not responsible because he had a biological abnormality and because he acted so seemingly uncharacteristically begs precisely the question of capacity that we must now address.

We have assumed that Cystkopf had impaired capacity properly to mark the appropriate response to situations he confronted and that this impairment made it difficult for him to guide his conduct appropriately in conflictual situations. He may have had lots of other types of the right stuff, but to some degree he lacked this type. In his case, the impairment was apparently caused by biological abnormalities, but the causal story is of little relevance per se. Suppose the same impairment were caused by an unfortunate childhood or by situational stress in an otherwise entirely normal person. The moral and legal issue would be the same.

The real question is whether this impairment undermines rationality sufficiently to excuse the agent. To answer it, we must consider Damasio's theory in more detail. The "somatic marker" theory attempts to

account in part for functional, socially advantageous human interaction that takes place in time-pressured, conflictual situations. In such cases, there is seldom time for the luxury of complete cost-benefit analysis of all the positive and negative reasons for alternative courses of action. To help guide our behavioral responses efficiently to charged social situations, the intact person has affective as well as cognitive reactions. Having the right emotional reactions automatically sets neural mechanisms in motion that signal prior punishment and reward experiences to our higher-order control systems. As a result, "the consequences of punishment and reward can be experienced consciously as 'feelings' and 'emotions.'" <sup>31</sup> When a social situation reactivates the previously learned somatic states that mark behavioral responses,

they mark unambiguously not only the value of current perceptions, but most importantly, the value of *certain outcomes* to given courses of action. . . . [\*543] Somatic states provide an automated way for the **brain** to select, consciously *and* not consciously, among response options. On the one hand, it would link a given response option with *both* the pleasure that it may bring immediately, *and* the punishment that it will lead to in the future. By forcing attention on a conflict, a pertinent somatic marker would signal the ultimately deleterious consequences that might arise from a response that might nonetheless bring immediate reward. <sup>32</sup>

This neural repertoire permits the person consciously to suppress negative responses in favor of more advantageous alternatives, and equally important, it induces "non-conscious inhibition of excitatory subcortical neurotransmitter systems which mediate appetitive behaviors." <sup>33</sup> People with an impaired marking system may be fully capable of reasoning correctly about even subtle hypothetical social problems presented verbally. But in conflictual, time-pressured situations, an impaired marking system increases the probability of choosing a disadvantageous or dysfunctional response because the agent lacks the emotional information that helps more fortunately endowed people fly straight. <sup>34</sup>

Even stripped of the neural details, it is perfectly plausible to assume that having the right emotional responses to situations eases the task of behaving appropriately or functionally. <sup>35</sup> This assumption is fully consistent with our view of ourselves as creatures who are capable of rational practical reasoning. Nothing in the concepts of rationality and practical reasoning suggests that emotions are not appropriate components of rational action. We rarely have time and probably few have the ability ever to be entirely cool, fully logical reasoners. Nature surely has provided us with a "down and dirty" set of [\*544] techniques for speedy, generally successful, real-time action choices, <sup>36</sup> and the ability to experience and to use one's own emotional data is credibly one of them. Some might prefer to conceptualize the consequences of somatic marking problems as "volitional" or as problems with the "will," but there is usually nothing wrong with an impulsive agent's executory ability to translate desires, beliefs, and intentions into action. Self-control problems of volitionally unimpaired agents are better understood as rationality defects. <sup>37</sup> For example, it is precisely the lack of the ability properly to use emotional data that allegedly accounts for the so-called "psychopath's" propensity for antisocial conduct and seeming inability to learn from negative consequences. Psychopaths, however, do not have volitional problems. I shall therefore discuss Cystkopf's responsibility in terms of rationality.

Before addressing the normative consequences of assuming that Damasio's theory is true and that Spyder Cystkopf had impaired emotional responses in conflictual, real-world situations, it is necessary to make a few further assumptions. The capacity properly to mark responses somatically, to experience the right emotional data, like virtually all human capacities, is surely distributed along a continuum



among human beings. We don't know the shape of the curve, but it is reasonable to assume that some people have maximal capacity, others have none or almost none, and most people are somewhere in between. And, presumably, there is an inverse relation between the degree of marking impairment and, to use Damasio's terms, the "adequacy and speed of response selection."<sup>38</sup> It is conceivable, of course, but implausible, that this is a binary, all-or-none capacity. Assume further that a wide range of variables, including, *inter alia*, genetic defects, faulty conditioning, and trauma can produce the impairment. Finally, let us plausibly assume that the somatic marking mechanism is not the only intrapersonal variable that affects the probability that agents will choose socially advantageous actions. If an agent's other capacities that guide action are reasonably intact, then the right response may not be so difficult to achieve after all. Indeed, awareness of defects that render the agent a potentially loose cannon on the deck may enable the agent to adopt compensatory coping mechanisms that mitigate or even obviate the defect. We are now ready to address properly Cystkopf's responsibility.

Remember that the capacity for rationality is a precondition for moral and legal responsibility. Discussion of Cystkopf's responsibility must therefore begin with the prior, entirely normative question of whether and how much the ability to experience the right emotions in conflictual and potentially conflictual situations is a criterion of rationality. For example, many consider psychopaths [\*545] to be irrational, even though psychopaths cognitively comprehend the facts about the world, including the legal rules and their consequences. Purely cognitive knowledge, divorced from its emotional context, is allegedly insufficient for moral rationality. The psychopath is "morally insane."<sup>39</sup> Others disagree, claiming, for example, that psychopaths are rational and should be held responsible unless they lack selfish feelings, which is unlikely.<sup>40</sup> Current criminal law holds psychopaths responsible, despite the arguments that such people lack moral rationality.<sup>41</sup>

Understanding the proper way to assess Cystkopf's responsibility requires only that we appreciate the normative nature of the relation between a particular impairment, however it is caused, and the moral and legal conception of rationality. If one believes that unimpaired marking is *not* a criterion of reasonable rationality, then Cystkopf's claim for excuse is immediately blocked: If his impairment does not negate the capacity for rational conduct, there is no moral or legal purchase for his claim. Cystkopf's condition raises a colorable claim only if we decide that impaired marking mechanisms undermine rationality. But we need not resolve the debate. Instead, let us assume for the purpose of discussion that somatic marking is relevant to our conception of rationality.

The next issue to be investigated would be Cystkopf's total capacity for rational conduct, considering all his cognitive and affective repertoires, including his marking capacities. We would want to know as much as possible about his real-world behavior in a variety of contexts, in addition to the medical and psychological findings. Rationality and responsibility are moral and legal, not medical or psychological, issues. The law's central concern is how Cystkopf performs in the real world, not the structure of his brain or how he performs on various tests.

Medical and psychological findings would provide relatively direct evidence about moral and legal criteria only if they are excellent proxies for such standards. They are not good proxies, however, and are unlikely ever to be. Moral and legal criteria are matters of normative meaning, and it is fanciful to assume that there will be a perfect match, uniform among people, between discrete brain states and normative meanings concerning human action. Nevertheless, abnormal clinical, laboratory, and psychological test findings may add plausibility to claims concerning impairments in the capacity for rational conduct in natural contexts, especially if they can provide reasonably precise [\*546] estimates of a person's performance on relevant tasks that would permit comparison to people in general. They

may, therefore, be relevant, provided they are reliable and valid.

Intelligence tests present a classic, if controversial, example. People whose general behavior demonstrates obviously superior intelligence have no purely cognitive problem understanding moral and legal rules, and we need no I.Q. test to identify such people. In contrast, people with severe and profound developmental disabilities lack the cognitive ability fully to understand the rules and, once again, we need not test them to know this. Suppose, however, a defendant of limited intelligence claims that he did not appreciate the criminality or wrongfulness of his conduct and, in capital cases, that he does not deserve to die, even if he were criminally responsible. To support this claim, he offers evidence of his performance on a standard general intelligence test, which indicates that he scores in the bottom two percent of the population and has a mild or moderate developmental disability. This finding would not be dispositive on the issue of criminal responsibility or on death penalty mitigation in those states that (misguidedly) permit execution of developmentally disabled people. As the Supreme Court properly recognized, people with the same level of intellectual impairment can have different moral capacities.<sup>42</sup> But the test result would surely be relevant and equally surely should be admissible.

Thus, even if the science employed to gather medical and psychological findings is reliable and valid, such findings would still be inaccurate proxies for moral and legal criteria for responsible action. To illustrate further, suppose Cystkopf's medical and psychological findings one month before the homicide would have been indistinguishable from what they were at the time of the crime. Indeed, because all the findings were obtained *after* the homicide, the defense experts' opinions about Cystkopf's condition at the time of the crime imply that they believe the results would have been the same or even *less* abnormal on the day of the killing because the tumor was allegedly growing. Suppose further that Cystkopf had a heated argument with his wife or had some other conflictual interaction a month before the crime, as he may well have had. It is reasonable to infer that on the prior occasion he chose the right response even though his abnormal neurological and psychological condition was measurably the same as on the day of the killing. Despite the presence of the same abnormal findings, no one would consider Cystkopf not responsible for the right response, and he would properly be praised for doing the right thing.

The impressive theorizing and extensive medical and psychological findings about Cystkopf are unlikely to provide precise data concerning the level of his impairment in the capacity for rational conduct. There is no quantitative scale with which to compare him to normal or abnormal populations. All we know is that there is some defect of indeterminate real-world effect. Although the uncharacteristic homicidal behavior was not inconsistent with the defect, we [\*547] cannot even be sure that the defect played a causal role in the conduct. Opinions that it did or that it did not are both speculations, not confirmed scientific or clinical fact. Opinions based on the theory and findings that Cystkopf did or did not appreciate the wrongfulness of his conduct, or that it was or was not impossible for him to do so, are similarly speculative, not fact. Indeed, these are moral and legal conclusions, rather than clinical or scientific opinions.

Let us review. Spyder Cystkopf's capacity for rational conduct on the day he killed his wife is the crucial issue. It is relevant but not dispositive that he had an abnormality that may have affected this capacity. Medical and psychological evidence may help us decide if his capacity was affected, but it is not very precise evidence about incapacity, and it is surely not dispositive of the legal issue.

How can the average juror or judge decide whether Cystkopf was criminally responsible? Although the available case material is frustratingly incomplete, jurors at the actual trial would surely have copious evidence concerning Cystkopf's relevant behavioral history. They would have to judge in light of the

circumstances of the crime, Cystkopf's full history, and the medical and psychological findings, whether Cystkopf's capacity for rational conduct was so impaired at the time of the crime that he substantially lacked the capacity to appreciate the wrongfulness or criminality of his conduct. This is a normative, moral, and legal judgment they would make using common sense inferences about Cystkopf based on the evidence presented to them. What more could we ask or want of jurors?

Even with the inadequate data about Cystkopf and his history that we possess, we can make some observations that are relevant to deciding whether Cystkopf is responsible for killing his wife. First and foremost, although the defense experts agreed that Cystkopf had the cyst throughout his life, he had never engaged in any previous violent conduct. This suggests, but does not prove, that any behavioral effects the cyst produced did not previously reduce his capacity for rational conduct in general or predispose him to violence or other dysfunctional social behavior. There are, however, at least three possible responses to this suggestion. First, the growing cyst produced increasing but unrecognized effects, which ultimately achieved a level that impaired his capacity for rationality.<sup>43</sup> Second, he had never before been as provoked and enraged as he was by his wife on the day of the crime, and thus his generally impaired capacity for rationality had never been so sorely challenged. Third, both the cyst's effects may have worsened and the provocation may have uniquely tested him.

The behavioral history we have thus permits contrary interpretations of the crime. Cystkopf's pacific past suggests that his capacity for rational conduct was not terribly impaired. Dreadfully provoked by his wife, however, he lost his [\*548] temper and overreacted homicidally, as many normal people unfortunately do. If this is the right story, he should rightfully be convicted of second degree murder. On the other hand, the killing is so uncharacteristic that perhaps it was the consequence of a uniquely unfortunate coincidence of worsening neuropathology and extreme provocation, which together reduced his capacity for rationality sufficiently to find him not responsible. Before deciding which of these two accounts is more likely accurate, we would want to know much more about Cystkopf's relationship with his wife, his history of responding to stress, and the circumstances of the crime.

The Damasio theory and findings also point in opposite directions. Cystkopf perhaps had **brain** pathology similar to the pathology of Damasio's subjects, and he did have experimental results on somatic marking tests that were similar to the results of the experimental subjects. Assuming the validity of Damasio's theory -- a large assumption -- this suggests that Cystkopf's capacity for rationality was impaired, at least on one plausible account of the content of rationality. On the other hand, Damasio's subjects seemed to have somewhat different **brain** pathology and exhibited marked personality changes after suffering **brain** damage, including dysfunctional social behavior and sociopathy.<sup>44</sup> Cystkopf, who showed no such changes, was apparently different from Damasio's subjects, despite his similar scores on the marking procedure. Again, although the sub-arachnoid cyst had been present for decades and probably for his entire life, it is possible that the most severe effects of the **brain** damage occurred only at the time of the crime. Two other, more parsimonious inferences are perhaps more likely, however. Cystkopf may have learned techniques or possessed other capacities to compensate for his somatic marking defect. Or, his **brain** damage may have been different from Damasio's subjects, and marking defects may be a substantial problem only if they occur in people with **brain** damage like Damasio's subjects. Cystkopf's excusing claim is strengthened if the cyst did impair his somatic marking and capacity for rationality at the time of the crime. In the alternative, if Cystkopf was relevantly different from Damasio's subjects or if he was able to compensate for his alleged marking defect, his excusing claim is weakened.

Until we have more evidence about Cystkopf, we can go no further.

## VII. CONCLUSION

An analysis of moral and legal responsibility must begin with a normative theory of and criteria for excusing conditions. Assessment of responsibility in individual cases requires patient, cautious attention to all the evidence logically [\*549] and empirically relevant to the presence of genuine excusing conditions. Only if one understands the theory and criteria for excuse, however, can one fully appreciate what evidence is relevant and why.

The case of Spyder Cystkopf is a perfectly generalizable example of the thesis. Causes of behavior are not excuses per se. Even confirmed causal physical pathology does not excuse human action unless it produces an independent excusing condition. The focus, then, must be on whether at the time of the crime an individual lacked the capacity for rationality. In Cystkopf's case, his sub-arachnoid cyst and perhaps related neuropsychological defects were relevant to assessing his capacity, but they were only a part of the puzzle. And they were relevant not just because they may have played a causal role, but because they may have affected his capacity for rationality.

### Legal Topics:

For related research and practice materials, see the following legal topics:  
Business & Corporate Law Cooperatives Members & Other Constituents Criminal Law & Procedure Defenses Insanity Insanity Defense Healthcare Law Treatment Patient Consent General Overview

### FOOTNOTES:

¶n1 The facts of the Spyder Cystkopf case are drawn from Daniel A. Martell, *New York v. Spyder Cystkopf* (unpublished manuscript, on file with *The Georgetown Law Journal*). Although the Cystkopf case is real, the names of the defendant and his victim are Dr. Martell's pseudonyms. The names and claims of the experts are real. Dr. Martell's description of the Cystkopf case will be published in a forthcoming issue of *Seminars in Clinical Neuropsychiatry*.

¶n2 See ALEXANDER ROSENBERG, *PHILOSOPHY OF SOCIAL SCIENCE* 47-49 (1988) (explaining the mind-body problem and its implications).

¶n3 See ALAN WERTHEIMER, *COERCION* 204-11 (1987) (distinguishing threats from offers and discussing different methods of setting baselines to make the distinction).

¶n4 I am borrowing here from Jay Wallace's excellent, compatibilist account of what it means to hold someone responsible. According to Wallace, holding people morally responsible cannot be reduced to a behavioral disposition positively and negatively to reinforce good and bad conduct, respectively. It is a susceptibility to experience the appropriate moral sentiments if another agent meets or breaches a justifiable moral obligation that one accepts and then to express these emotions through the appropriate positive or negative practices, such as praise and **blame**. See R. JAY WALLACE, *RESPONSIBILITY AND THE MORAL SENTIMENTS* 51-83 (1994).

One can imagine a world in which praise and **blame** were used solely for their operant conditioning success, but I suspect that they would then be quite unsuccessful, and the world would be a quite

cheerless place in general.

¶n5 For a thoughtful account of eliminative materialism's implications for criminal law and responsibility, see Andrew E. Lelling, *Eliminative Materialism, Neuroscience and the Criminal Law*, 141 U. PA. L. REV. 1471 (1993). For a more wide-ranging, recent exploration of eliminative materialism, see PAUL M. CHURCHLAND, *THE ENGINE OF REASON, THE SEAT OF THE SOUL: A PHILOSOPHICAL JOURNEY INTO THE BRAIN* (1995). Churchland briefly explores the moral and legal implications. *See id.* at 309-14.

¶n6 *See* WALLACE, *supra* note 4, at 69 (claiming that such practices demonstrate "our commitment to certain moral standards, as regulative of social life," and make a "perhaps irreplaceable contribution . . . to the constitution and maintenance of moral communities").

¶n7 Peter Strawson, *Freedom and Resentment*, in FREE WILL 59, 80 (Gary Watson ed., 1982). Strawson uses the term "panicky" to describe libertarian metaphysics generally, but it applies equally well in this context. The selective determinist's belief that only the small subset of people who are allegedly determined should be excused entails the corresponding belief that the majority of people who are held responsible have libertarian, contracausal freedom.

¶n8 For the full argument, see Stephen J. Morse, *Psychology, Determinism and Legal Responsibility*, in THE LAW AS A BEHAVIORAL INSTRUMENT 35, 50-54 (Gary B. Melton ed., 1986).

¶n9 *See* MICHAEL S. MOORE, ACT AND CRIME: THE PHILOSOPHY OF ACTION AND ITS IMPLICATIONS FOR CRIMINAL LAW 113-65 (1993) (providing a complete account and defense of the claim that the will is an intentional executory state).

¶n10 *See supra* text accompanying notes 3-4.

¶n11 *See* Galen Strawson, *Consciousness, Free Will, and the Unimportance of Determinism*, 32 INQUIRY 3 (1989) (claiming that reductive physicalism about the mind is "moonshine"). *See generally* JOHN R. SEARLE, *THE REDISCOVERY OF THE MIND* (1992) (providing an extended argument for the irreducible reality of mind).

¶n12 I thank Norman R. Relkin, M.D., Ph.D., for making this point to me particularly clearly.

¶n13 *See, e.g.*, MODEL PENAL CODE ? 2.01(2) (Proposed Official Draft 1962) (stating that bodily movements that are unconscious are not voluntary acts).

¶n14 *See generally* MORAL LUCK (Daniel Statman ed., 1993) (collecting classic articles addressing the topic).

¶n15 The explanation for this finding most sympathetic to Cystkopf is that Brunhilda was only unconscious from the strangling when Cystkopf defenestrated her, but he nonetheless believed that she was dead. If this is true, criminal law buffs will immediately recognize a neat causation problem. The intentionally homicidal act -- strangling -- did not in fact cause Brunhilda's death. The intentional act that in fact killed Brunhilda -- defenestration -- was only negligent at most concerning death. So should Cystkopf be charged with intentional homicide or with attempted homicide? *See* Thabo Meli v. Reginam, 1 All E.R. 373 (1954) (holding that when defendants mistakenly thought victim was dead and

then killed victim by a second act, defendants were guilty of murder because the events could not be separated). For those who do not understand why results matter, this is all beside the point, of course. *See, e.g.*, Sanford H. Kadish, *The Supreme Court Review, Foreword: The Criminal Law and the Luck of the Draw*, 84 J. CRIM. L. & CRIMINOLOGY 679 (1994) (arguing that results have no bearing on an offender's culpability and that reducing punishment if harm does not result is irrational).

¶n16 A sub-arachnoid cyst is a fluid-filled tissue sac just beneath the middle level of the protective linings that surround the brain. The cyst is thus not within the brain itself. Most such cysts are probably congenital. *See* Martell, *supra* note 1, at 13.

¶n17 For expositional ease, I shall henceforth refer to all findings and opinions as Dr. Damasio's, although others at Iowa contributed to Cystkopf's multidisciplinary evaluations.

¶n18 Antonio R. Damasio et al., *Individuals with Sociopathic Behavior Caused by Frontal Damage Fail to Respond Autonomically to Social Stimuli*, 41 BEHAVIOURAL BRAIN RES. 81, 82 (1990) [hereinafter Damasio et al., *Individuals*]. Damasio's theory has been termed the "somatic marker" theory. The study used a sample of five experimental and six control subjects.

Damasio's wider goal is to provide a thoroughly biological account of how psychology is possible, including subjectivity, the most notoriously difficult psychological experience to explain. Damasio presents a complete general account in ANTONIO DAMASIO, DESCARTES' ERROR: EMOTION, REASON AND THE HUMAN BRAIN (1994) [hereinafter DAMASIO, DESCARTES' ERROR]. The further testing of the somatic marker theory is also discussed. *Id.* at 205-22.

¶n19 In Damasio's words: "Because they are deprived of a natural qualifying marker, they must depend instead on a reasoned cost-benefit analysis of numerous and often conflictual options (involving both immediate and future consequences). The adequacy and speed of response selection are degraded accordingly." Damasio et al., *Individuals*, *supra* note 18, at 82.

¶n20 Martell, *supra* note 1, at 19.

¶n21 *Id.* at 20.

¶n22 Indeed, one defense psychiatrist opined that it was "impossible" for Cystkopf to do so. *Id.*

¶n23 AMERICAN PSYCHIATRIC ASS'N, DIAGNOSTIC AND STATISTICAL MANUAL OF MENTAL DISORDERS at xxiii-xxiv, xxvii (4th ed. 1994) [hereinafter DSM-IV]. *See generally* Stephen J. Morse, *Failed Explanations and Criminal Responsibility: Experts and the Unconscious*, 68 VA. L. REV. 971, 1048-50, 1059-70 (1982) (arguing that diagnoses and symptoms alone cannot determine whether an agent is legally responsible).

¶n24 Cystkopf might have tried to ground his insanity claim in a diagnosis of "episodic dyscontrol." Although not a part of the official diagnostic nomenclature, it is a diagnostic term that has been in vogue and is sometimes still used. For various reasons, however, the "diagnosis" is unsatisfactory. *See* Philip Lucas, *Episodic Dyscontrol: A Look Back at Anger*, 5 J. FORENSIC PSYCHIATRY 371 (1994) (challenging the validity of the syndrome). Cystkopf's history does not support the official diagnosis of "Intermittent Explosive Disorder" because there were not multiple episodes of disproportionately violent outbursts. *See* DSM-IV, *supra* note 23, at 609-12.

¶n25 The differences are discussed *infra* note 44 and accompanying text.

¶n26 This is consistent with New York's definition of murder in the second degree, with which Cystkopf was charged. *See* N.Y. PENAL LAW ? 125.25 (McKinney 1987 & Supp. 1996).

¶n27 For the most thoroughly skeptical and complete critique, see DAVID FAUST ET AL., **BRAIN DAMAGE CLAIMS: COPING WITH NEUROPSYCHOLOGICAL EVIDENCE** (1991). *See also* Jeffery T. Barth et al., *Forensic Neuropsychology: A Reply to the Method Skeptics*, 2 NEUROPSYCH. REV. 251 (1992) (admitting problems with neuropsychological methods and findings, but answering skeptics).

¶n28 Perhaps Cystkopf should have claimed that he did not act, arguing that intense rage produced a dissociative state of automatism. *Cf.* Keith Rix & Alan Clarkson, *Depersonalization and Intent*, 5 J. FORENSIC PSYCHIATRY 409 (1994) (presenting a case possibly like Cystkopf's and suggesting that automatism or insanity is the appropriate defense). To address this issue fully requires more knowledge than we possess of Cystkopf's mental state at the time of the homicide.

¶n29 In what follows, I do not mean to exhaust the entire range of possible explanations for Cystkopf's behavior or all possible inferences that might be drawn from the evidence. The goal is to apply the proper conceptual framework for thinking about the case, within which different arguments can of course be made.

¶n30 *See generally* Stephen J. Morse, *Culpability and Control*, 142 U. PA. L. REV. 1587, 1605-10 (1994) (discussing usual means people use to "fly straight").

¶n31 Damasio et al., *Individuals*, *supra* note 18, at 83.

¶n32 *Id.*

¶n33 *Id.*

¶n34 Damasio's theory could be characterized as a psychophysiological account of "impulsivity." This characterization has the desirable feature of permitting us to relate Damasio's work to much other theorizing and research that hypothesizes a positive causal relation between impulsivity and criminal or other socially disadvantageous behavior. *See, e.g.,* MICHAEL R. GOTTFREDSON & TRAVIS HIRSCHI, *A GENERAL THEORY OF CRIME* 85-120 (1990) (explaining theory that lack of self-control can lead to criminal behavior). Although the association between steep time discounting and maladaptive conduct seems intuitively plausible, there are problems with the concept of impulsivity. *See* JAN VOLAVKA, *NEUROBIOLOGY OF VIOLENCE* 180-81 (1995) (explaining theory of impulse control and noting that it is not uniformly defined); William G. McCown & Philip A. DeSimone, *Impulses, Impulsivity, and Impulsive Behaviors: A Historical Review of a Contemporary Issue*, in *THE IMPULSIVE CLIENT: THEORY, RESEARCH, AND TREATMENT* 3, 5 (William G. McCown et al. eds., 1993). For the purpose of argument, however, let us assume that impulsivity is one sensible and less "jargony" term to characterize the problem of people with somatic marking deficits.

¶n35 Although Damasio's theory concerns the effect of frontal lobe damage on the ability to experience appropriate emotions at all, I also presume that the marking system is impaired if a person has learned

inappropriate markers. For example, there are people who appear to feel relatively unalloyed pleasure when they anticipate the infliction of suffering, pain, or punishment. A conflictual situation might fully activate the markers of such people, but the probability of choosing a socially disadvantageous response would increase, just as it does in people with diminished somatic markers.

¶n36 *See* DANIEL C. DENNETT, *DARWIN'S DANGEROUS IDEA: EVOLUTION AND THE MEANINGS OF LIFE* 505-10 (1995) (suggesting that ethical reflection on courses of action must provide mechanisms for "brute" and "a-rational" termination of reflection).

¶n37 Morse, *supra* note 30, at 1595-605. Some cases of lack of self-control do stem from volitional defects, but most do not. *Id.* at 1597-98.

¶n38 Damasio et al., *Individuals*, *supra* note 18, at 82.

¶n39 *See, e.g.,* Susan Wolf, *Sanity and the Metaphysics of Responsibility*, in *RESPONSIBILITY, CHARACTER, AND THE EMOTIONS: NEW ESSAYS IN MORAL PSYCHOLOGY* 46, 58 (Ferdinand Schoeman ed., 1987).

¶n40 *See, e.g.,* Samuel H. Pillsbury, *The Meaning of Deserved Punishment: An Essay on Choice, Character and Responsibility*, 67 IND. L.J. 719, 746-47 (1992) (arguing that only psychopaths who lack selfish feeling should be excused from criminal responsibility).

¶n41 *See, e.g.,* MODEL PENAL CODE ? 4.01(2) (Proposed Official Draft 1962) ("The terms 'mental disease or defect' do not include an abnormality manifested only by repeated criminal or otherwise antisocial conduct."). It is interesting, as Damasio himself realizes, that psychopaths and nonpsychopathic criminals respond similarly to experimental procedures like his. DAMASIO, *DESCARTES' ERROR*, *supra* note 18, at 288.

¶n42 *See* Penry v. Lynaugh, 492 U.S. 302, 338 (1989).

¶n43 Again, the lesion did not specifically and unmediatedly produce homicidal intentions or the intent to violate a provision of the New York Penal Code. *See supra* text accompanying notes 10-13.

¶n44 Damasio et al., *Individuals*, *supra* note 18, at 81-82, 85. Damasio's use of the diagnostic term "sociopathy" is odd, because the American Psychiatric Association does not employ this term in its official diagnostic manual. It does include "Antisocial Personality Disorder," to which Damasio appears to be referring. *See* DSM-IV, *supra* note 23, at 645-50. Damasio does not indicate whether any of his experimental subjects met the full diagnostic criteria for this disorder, and he does not provide sufficient data to permit readers to make an independent judgment.